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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,464	03/24/2002	Thomas Benthien	24448-0030	9481

7590 06/04/2004  
Greenblum & Bernstein PLC  
1950 Roland Clarke Place  
Reston, VA 20191

EXAMINER

LAVILLA, MICHAEL E

ART UNIT PAPER NUMBER

1775

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/937,464

Applicant(s)

BENTHIEN ET AL.

Examiner

Michael La Villa

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27-53 is/are pending in the application.
- 4a) Of the above claim(s) 44-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-43 and 53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040217.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, Claims 27-43 and 53, in Paper No. 20040217 is acknowledged. The traversal is on the ground(s) that claims should be presumed patentable for the purposes of restriction, that the cited reference does not teach the claimed catalytic activity limitation as now presented, and that searching all of the claimed inventions would not constitute a serious burden. This is not found persuasive. The reference has been cited to show that there is an absence of special technical feature irrespective of whether the claims are rendered unpatentable in view of the cited reference. The claimed catalytic activity would be presumed inherently present for the claimed metal oxide materials. That the surface of some of the metal oxide particles may be rendered non-catalytic by virtue of subsequent surface modification in the reference does not vitiate the catalytic quality of the particles prior to modification or the catalytic quality of the particles that are not fully surface modified. The various groups of claims are instantly recognizable as classified in different classes and subclasses, which is a criterion for establishing serious burden for search and examination. Newly cited Nishimori et al. JP 2000-051708 also teaches the special technical feature, where Nishimori teaches explicitly that the metal oxide particles are catalytic titanium oxide particles.

2. Claims 44-52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 20040217.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  4. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
  5. Claims 27-43 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
    - I. Regarding Claim 27, it is unclear what applicant means by applicant's preamble phrase "composition comprising a coating of a coating material on a support." Is applicant claiming an unstructured composition material or a layered material of a coating material on a support? The claim has been interpreted as a layered material.
    - II. Regarding Claim 27, it is unclear what is meant by the phrase "obtainable"? Is applicant's claim a product-by-process claim or a product claim that is capable of being obtained by the claimed process steps? The claim has been interpreted as a product-by-process claim.

- III. Regarding Claim 31, it is unclear whether the claimed "at least one other transition metal" is any transition metal or those of Claim 27.
- IV. Regarding Claim 53, it is unclear what applicant means by applicant's preamble phrase "composition comprising a porous coating of a coating material on a support." Is applicant claiming an unstructured composition material or a layered material of a coating material on a support? The claim has been interpreted as a layered material.
- V. Regarding Claims 27 and 53, it is unclear what distinguishes the claimed hydrolysable and non-hydrolysable radicals. Both are described as possibly being amino or halogen. Moreover, some so-called non-hydrolysable radicals appear to be hydrolysable. See, for example, page 2 of the Specification.
- VI. Regarding Claims 27 and 53, it is unclear what is meant by the phrase "glass-forming elements." In what manner is an element to be classified as being "glass forming"? Is such an element necessarily in atomic, elemental form?

***Claim Rejections - 35 USC § 102***

- 6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

7. A person shall be entitled to a patent unless –
8. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
9. Claims 27-29, 34, 35, and 37-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishimori et al. JP 2000-051708. Nishimori et al. teaches coating a substrate with a catalytic film comprised of polycondensate of silane, catalytic 200 to 300 nm titanium oxide particles, and metal silver. The heat treatment analogous to applicant's would be expected to render some porosity to the film of Nishimori. See Nishimori et al. (Abstract; Claims; paragraphs 1, 10-12, 16-18, 46, 47, and 80).

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
  1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 27-29, 34, 35, and 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonschker et al. EPA 0 842 967. Jonschker et al. teaches a polycondensate of silane and metal oxide particles on a substrate. Effective metal oxide particles are described as titanium oxide particles, which are inherently catalytic. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the laminate of Jonschker et al. with titanium oxide particles as Jonschker teaches that laminates formed with these particles are effective. See Jonschker et al. (Claims 1, 5, and 15; page 3, lines 8-10, 36-68; page 4, lines 1-36). The claimed catalytic behavior of the composition would be expected in view of incomplete surface modification of titanium oxide particles and in view of the described oxidation protection properties of underlying surfaces by these materials.

***Allowable Subject Matter***

13. Claims 30-33, 36 and 43 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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14. Claim 53 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
15. Neither the reviewed prior art nor the prior art of record teaches or suggests the claimed subject matter of Claims 30-33, 36, 43, and 53. Particularly, the claimed materials having the claimed structural qualities in the claimed combination of limitations are not taught or suggested.

***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
May 28, 2004

A handwritten signature in black ink, appearing to read "La Villa", with a long horizontal stroke extending to the right.